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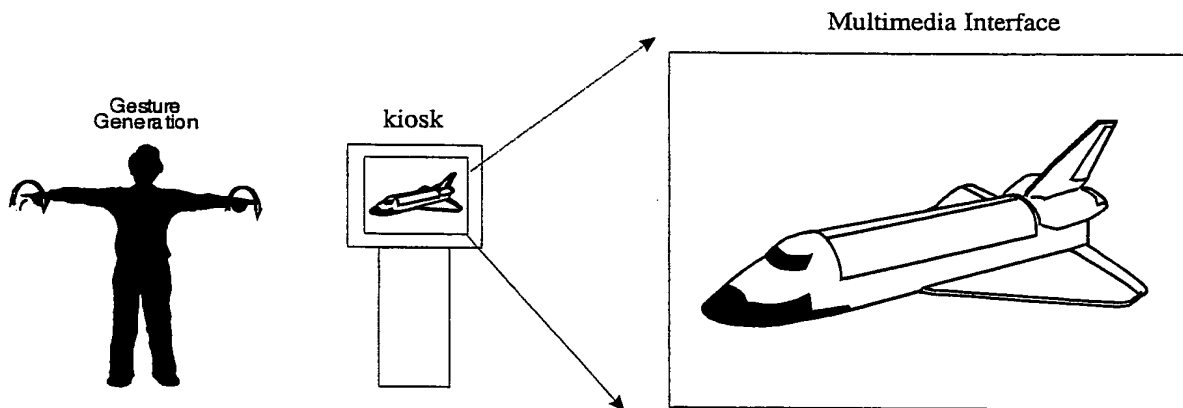


Figure 1: Gesture Recognition System.

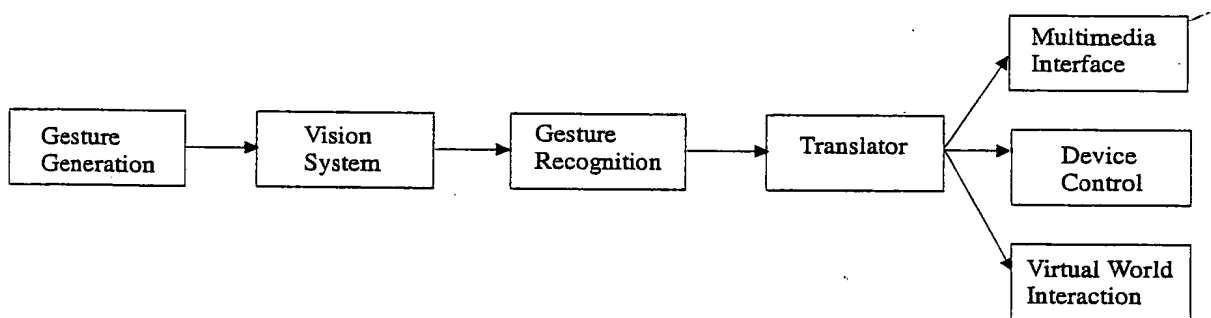


Figure 2: Gesture Recognition System Flow Chart.

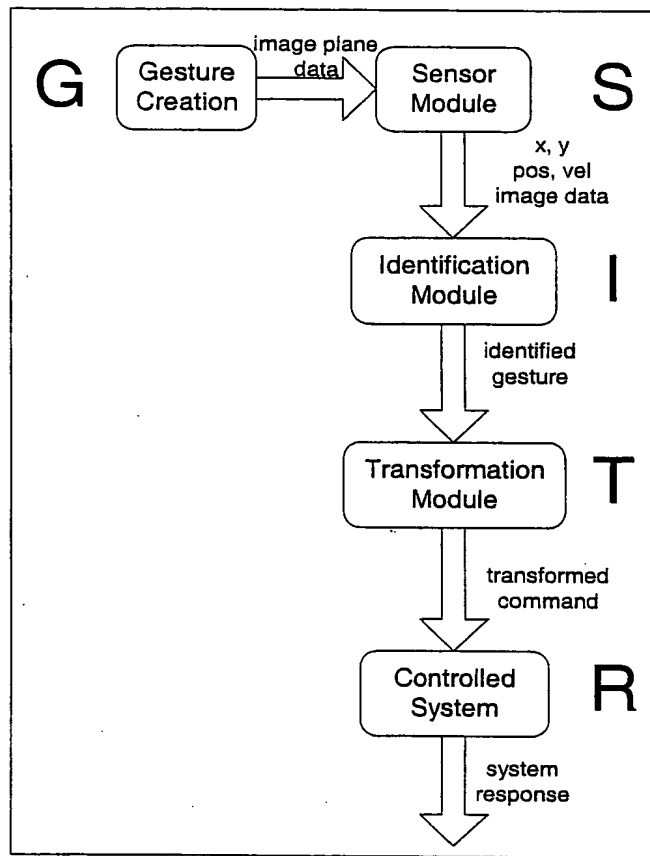


Figure 3: Signal Flow Diagram of the Gesture Recognition System.

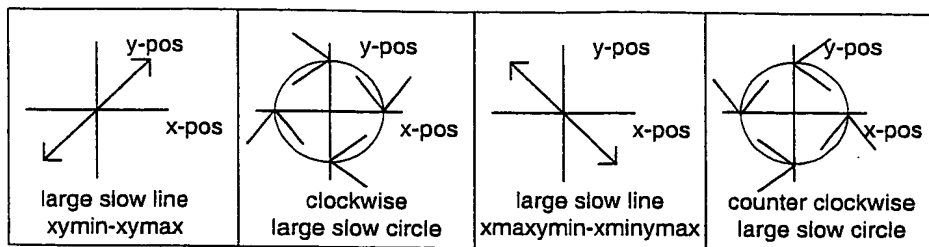


Figure 4: Example gestures, showed in two dimensions.

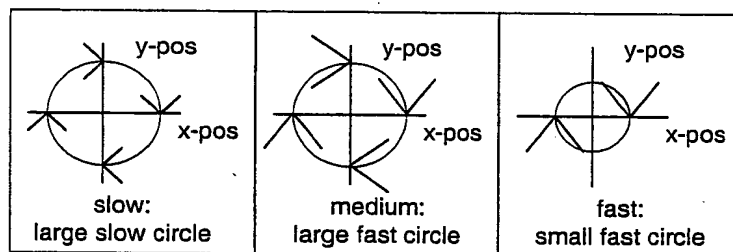


Figure 5: Three Example Gestures.

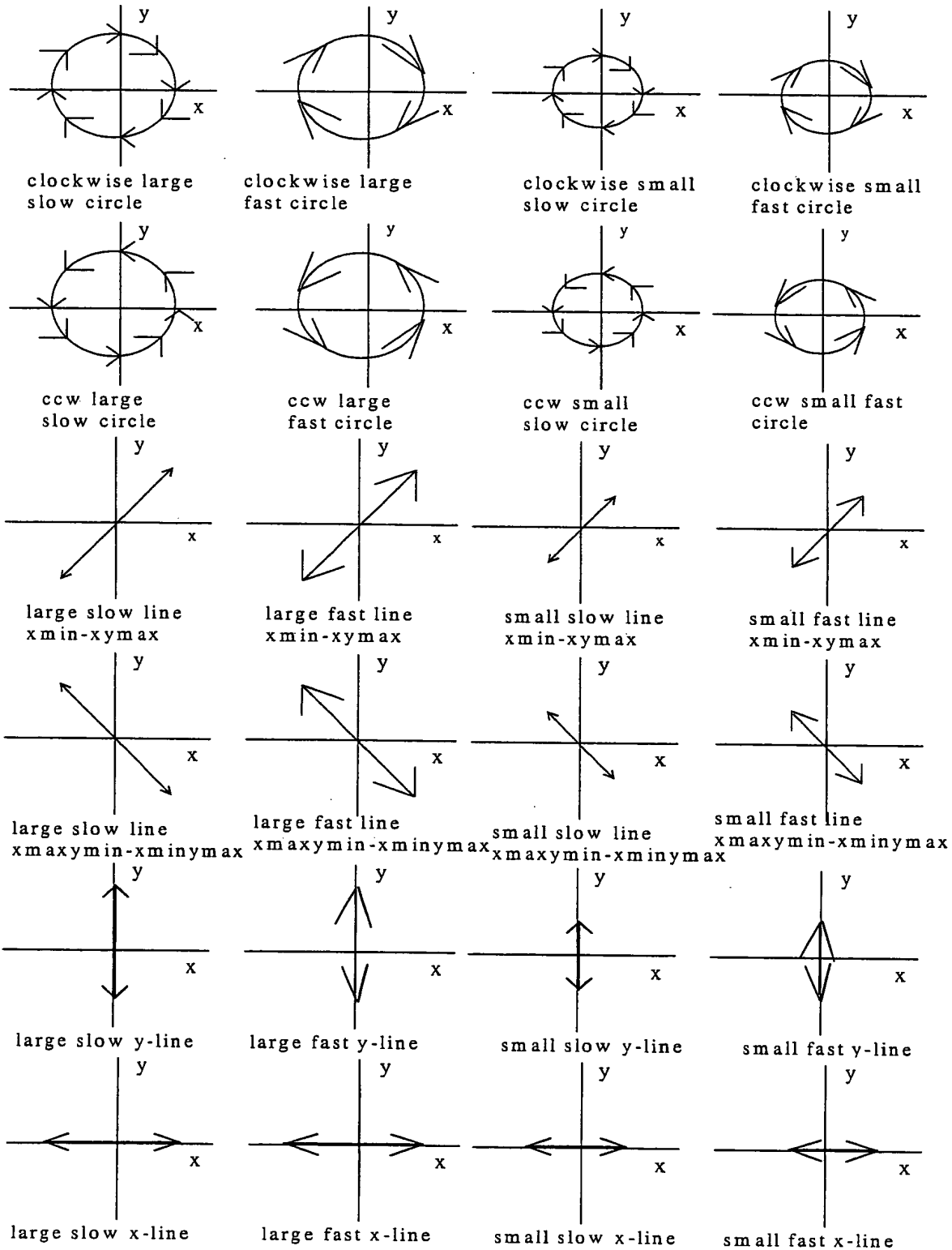


Figure 6: An Example 24 Gesture Lexicon.

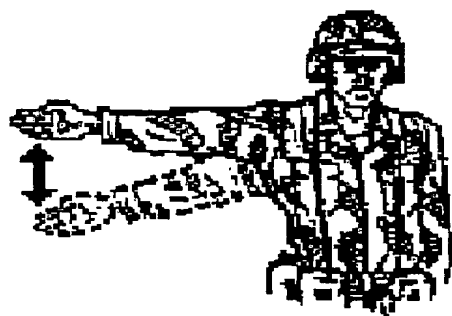


Figure 7: Slow Down Gesture.

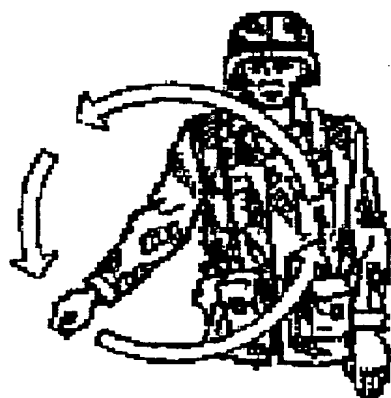


Figure 8: Prepare to Move Gesture.



Figure 9: Attention Gesture.

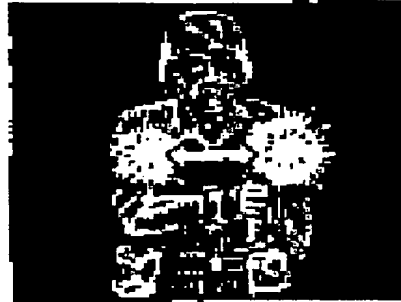


Figure 10: Stop Gesture.

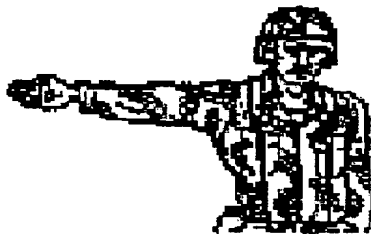


Figure 11: Right or Left Turn Gestures.



Figure 12: "Okay" Gesture.



Figure 13: Freeze Gesture.

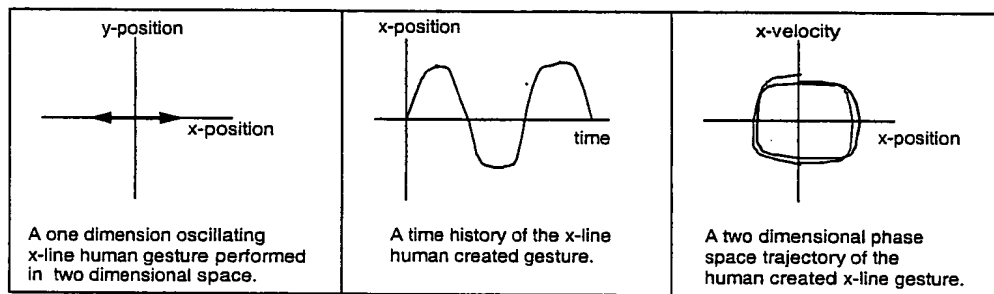


Figure 14: Plots of a Human Created One Dimensional X-Line Oscillating Motion.

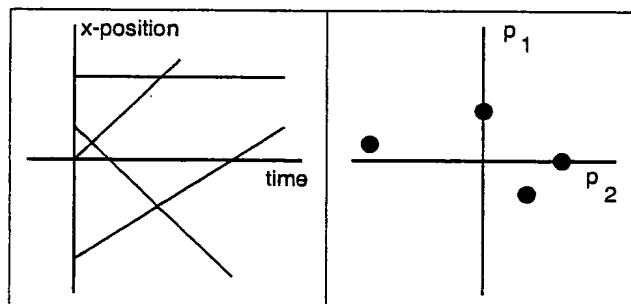


Figure 15: Possible Lines Associated with $x(t,p)=p_0+p_1t$ and Their Equivalent Representation in the p Parameter Space.

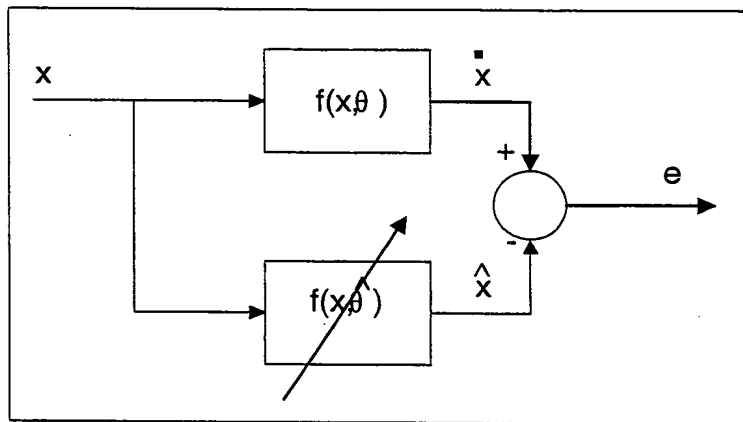


Figure 16: Parameter Fitting: We Require a Rule for q to Bring the Error to Zero.

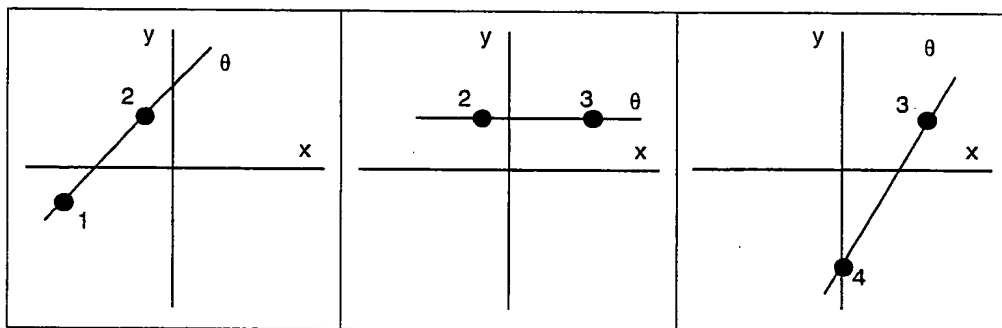


Figure 17: Plots of Different (x_i, y_i) Data Points that Result in a Different Best Fitting q Line.

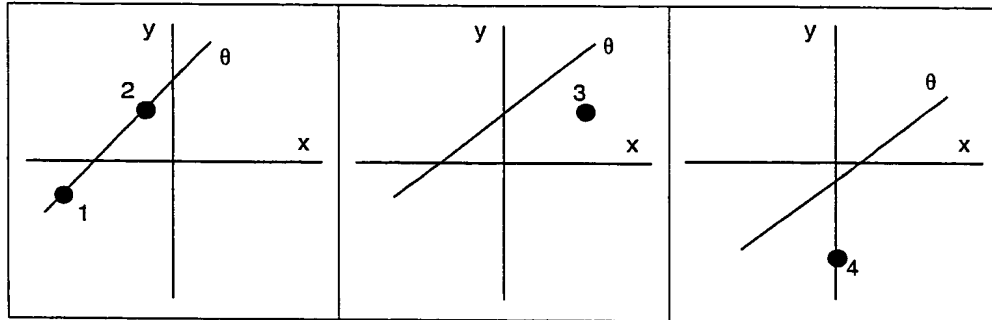


Figure 18: The Recursive Linear Least Squares Method for Updating q with Each Additional (x_i, y_i) Data Point.

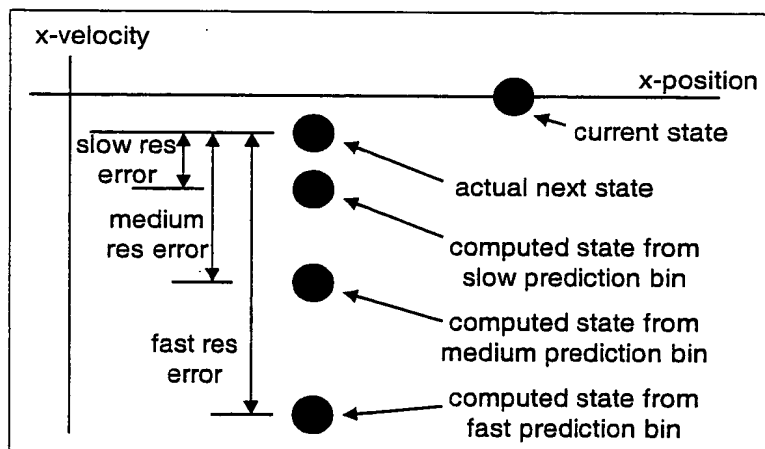


Figure 19: An Exaggerated Representation of the Residual Error Measurement.

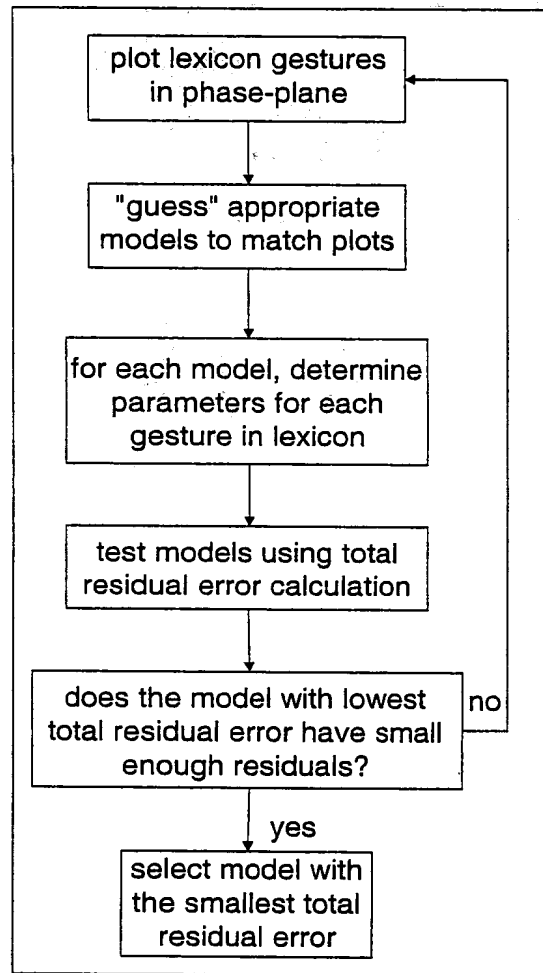


Figure 20: An Algorithm for Determining the Specific Gesture Model.

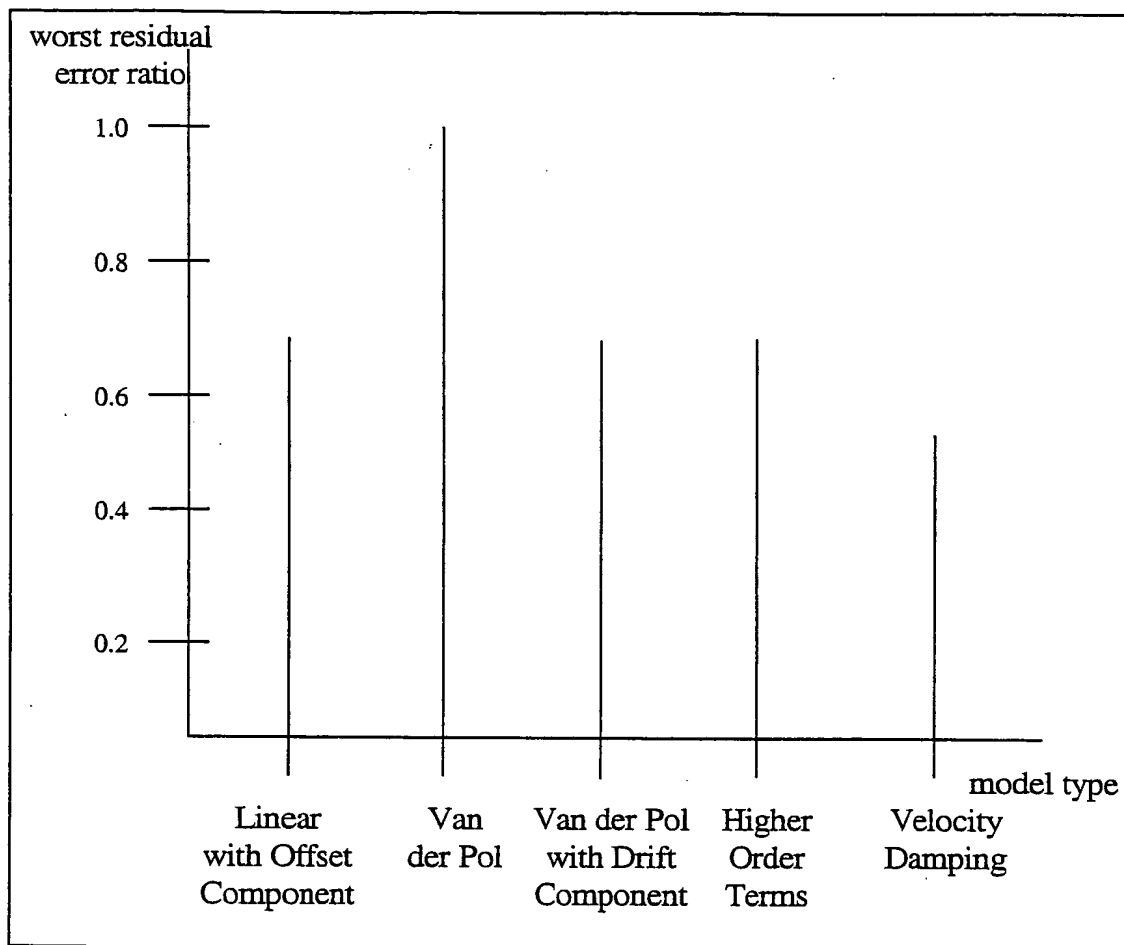


Figure 21: The Worst Case Residual Ratios for Each Gesture Model. The Lower the Ratio, the Better the Model.

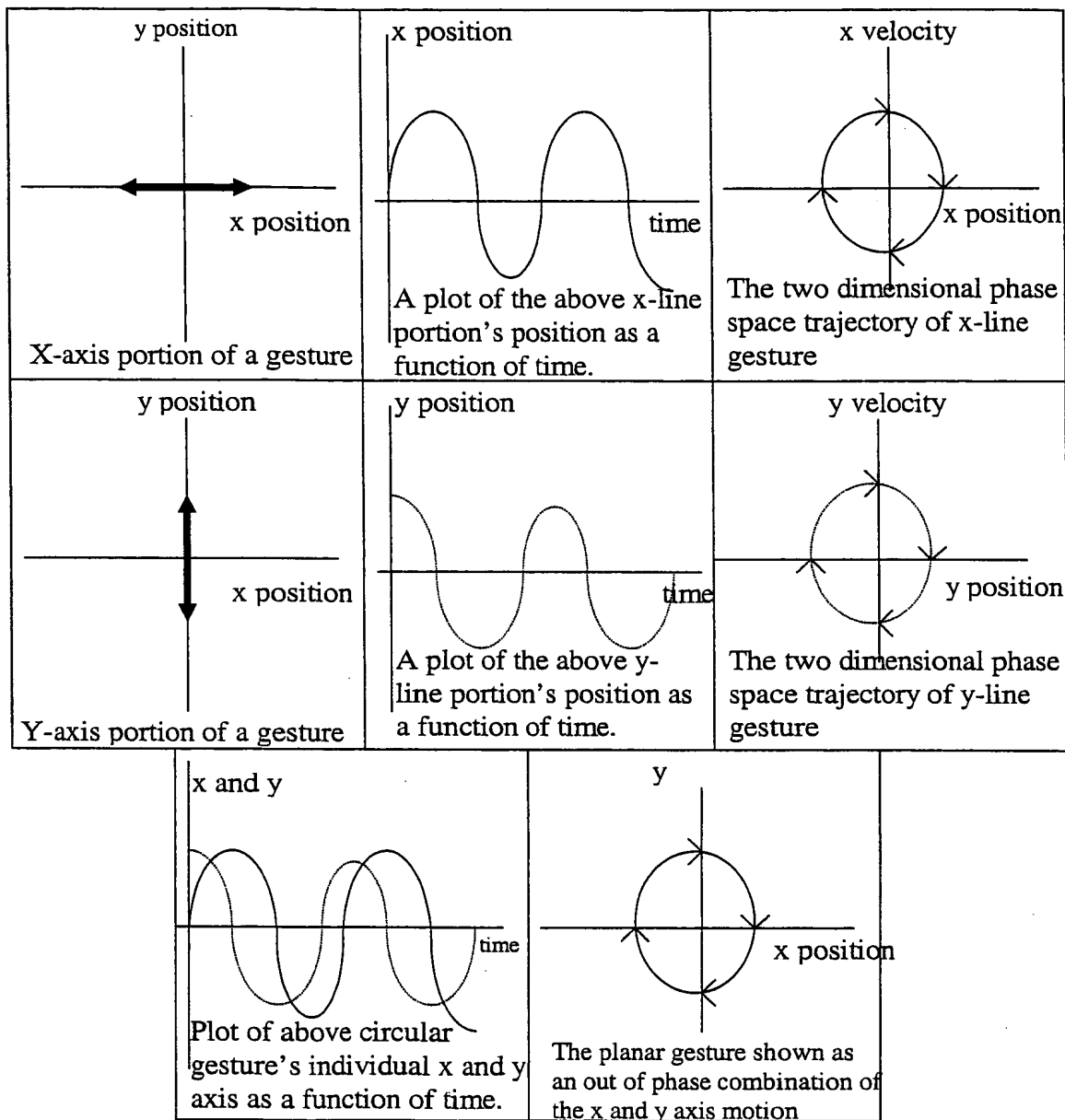


Figure 22: Two Perpendicular Oscillatory Line Motions Combined into a Circular Gesture.

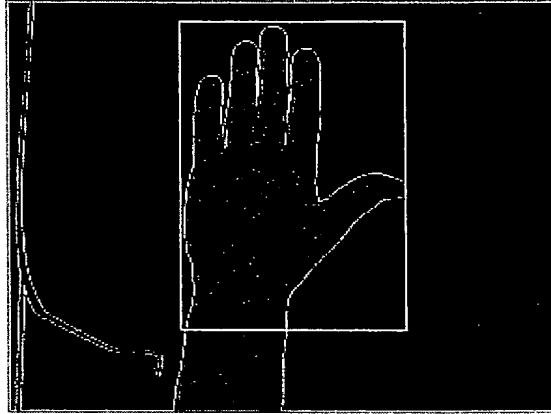


Figure 23: Bounding Box Around Hand.

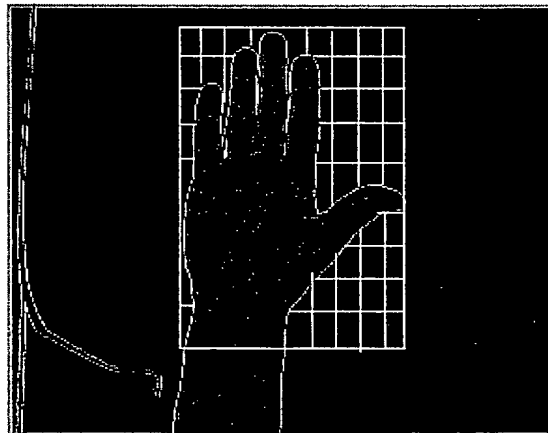


Figure 24: Descriptions from Bounding Box.

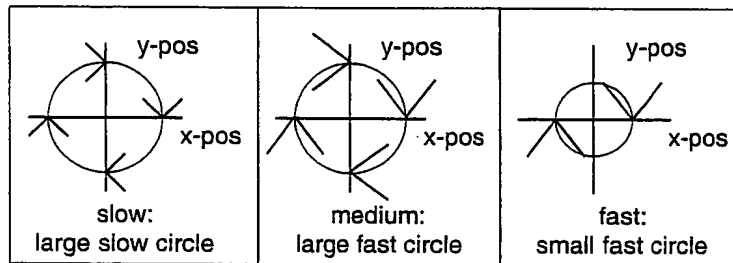


Figure 25: The Example Gestures.

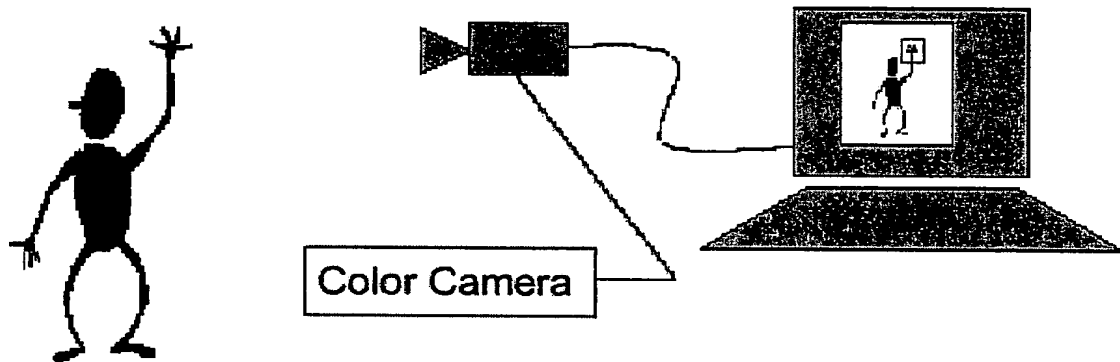


Figure 26: Schematic of the Hand Tracking System Hardware.

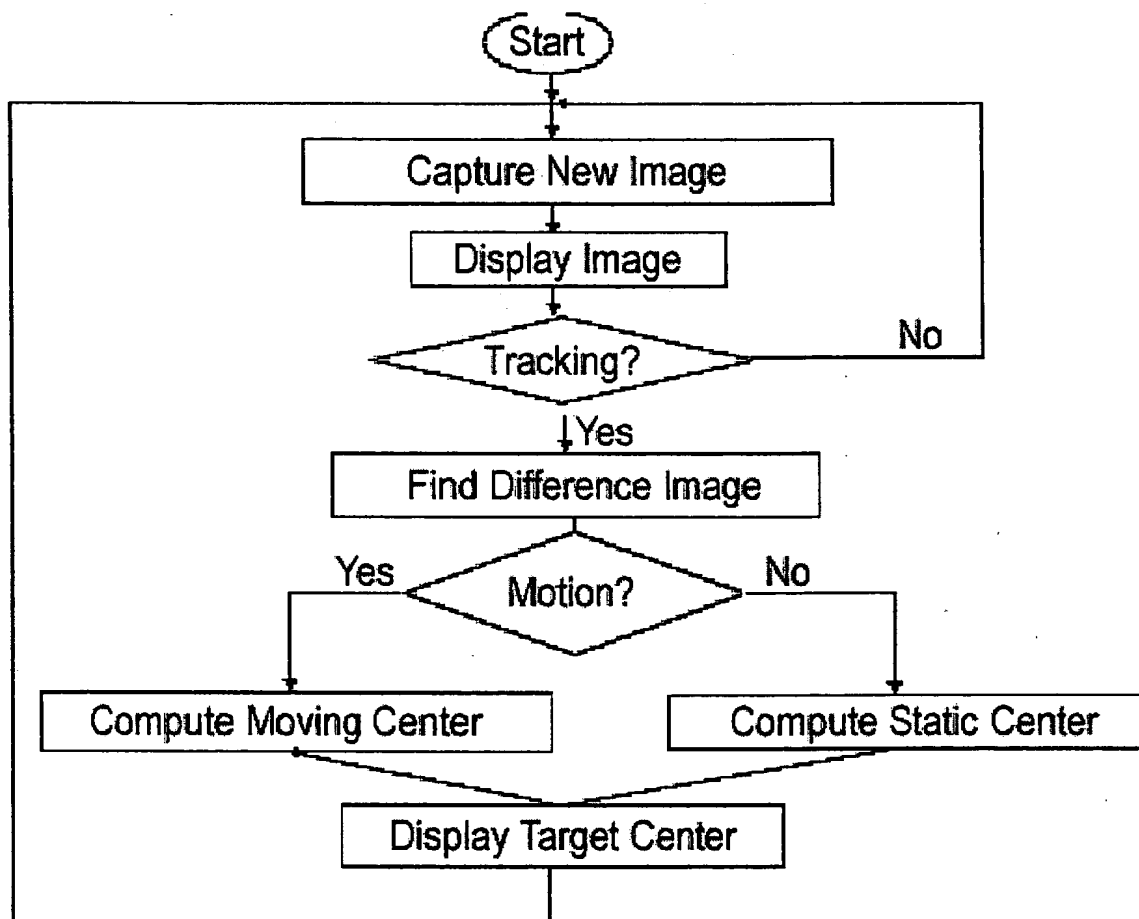


Figure 27: Flowchart of the CTS.

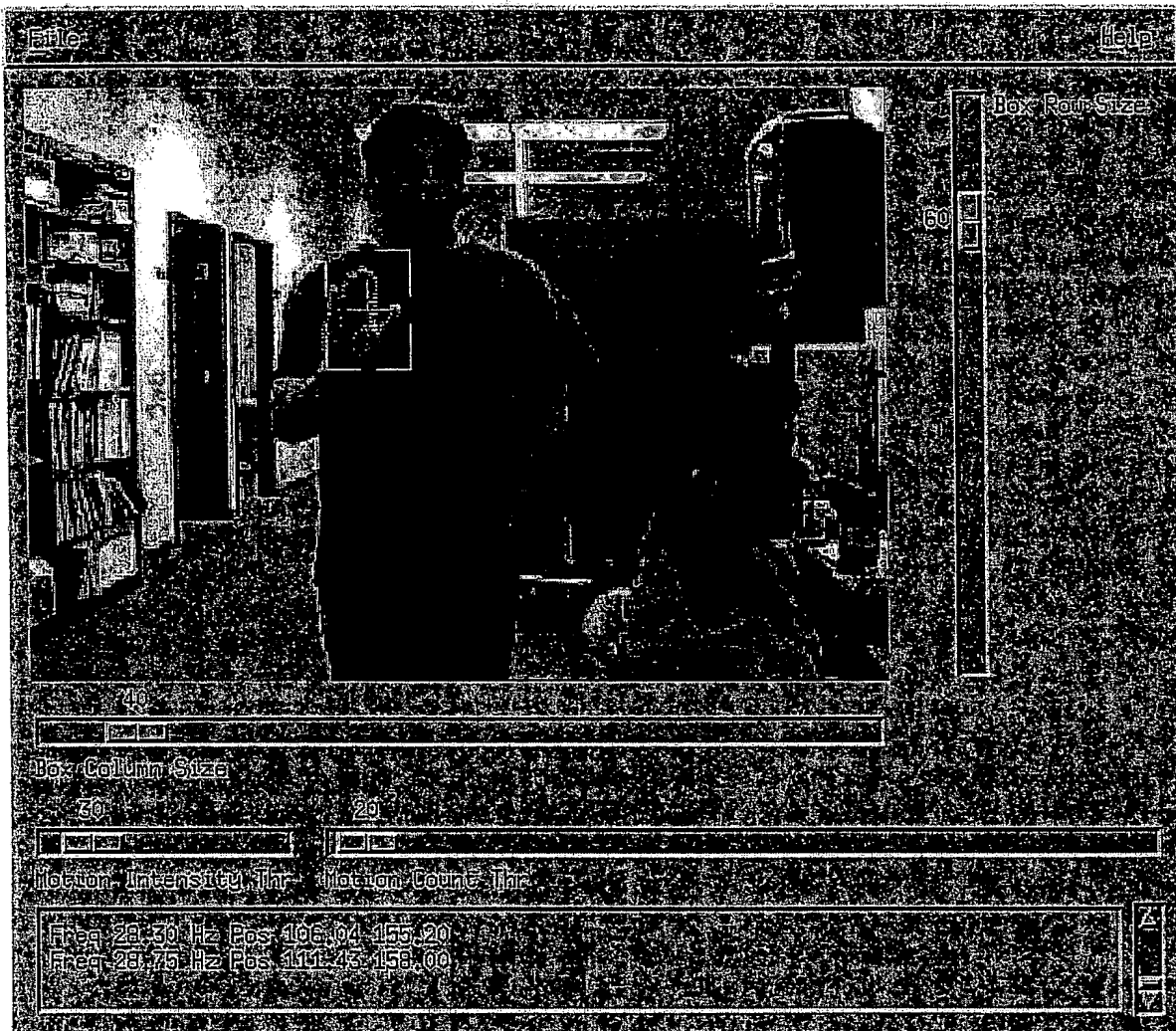


Figure 28: Graphical User Interface of the CTS.

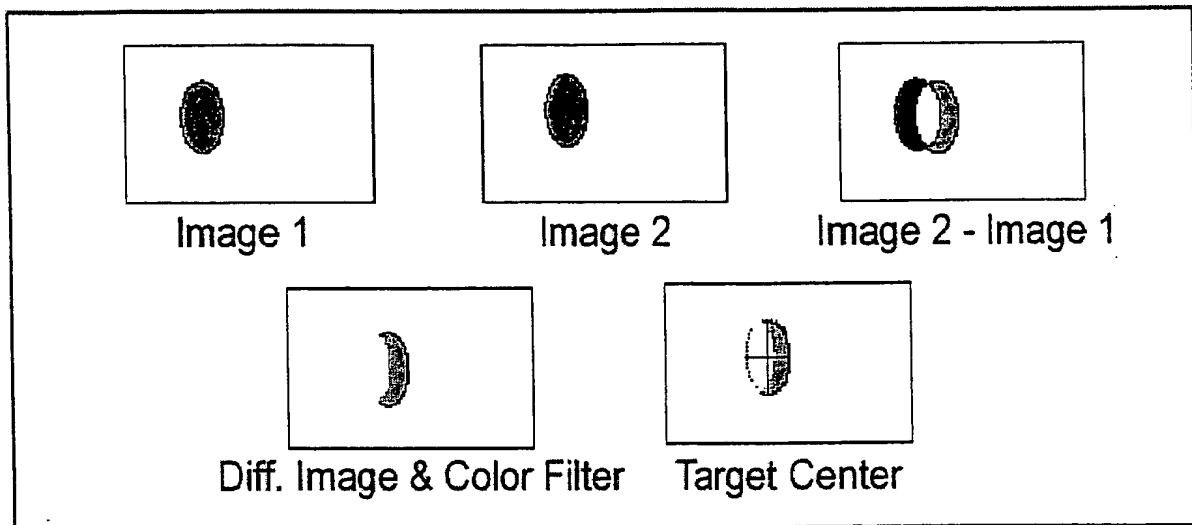


Figure 29: Target Center from Difference Image.

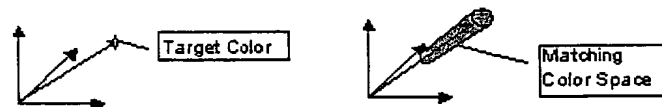


Figure 30: Color Matching Technique.

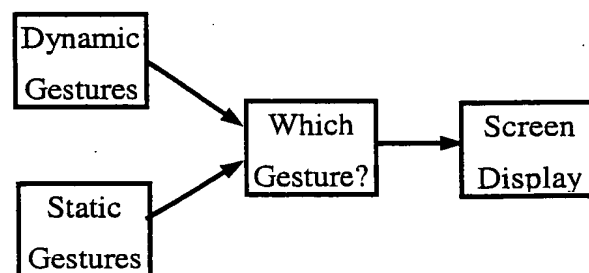


Figure 31: Identification Module.

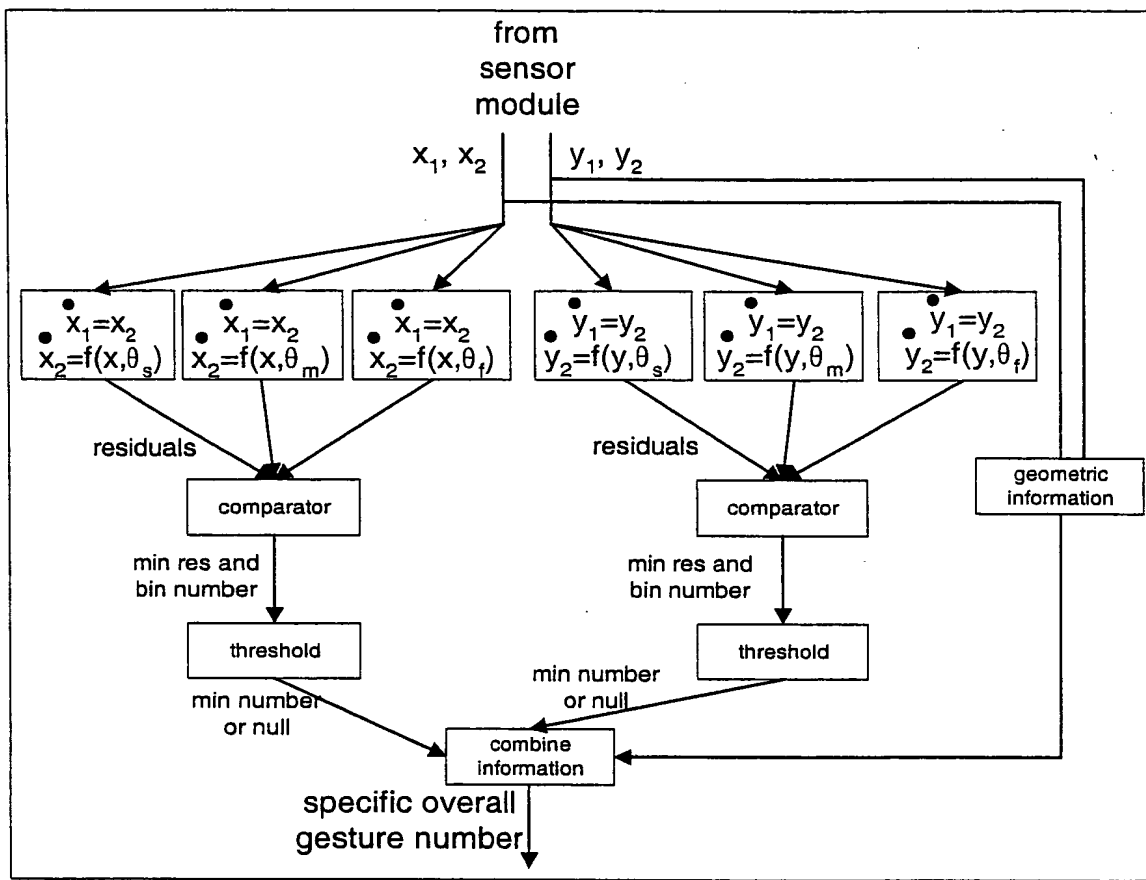


Figure 32: Simplified Diagram of the Dynamic Gesture Prediction Module.